

## CLAIMS

10/307142

1. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium having a multilayer structure which comprises cobalt-doped iron oxide particles having an average length of 0.02 to 0.3  $\mu\text{m}$ , an aspect ratio (length to width ratio) of 2 to 13, and a BET specific surface area of 40 to 100  $\text{m}^2/\text{g}$  and containing a cobalt compound in an amount of 0.2 to 10 atom% in terms of cobalt based on total iron.

2. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 1, wherein said cobalt-doped iron oxide particles have a coercive force of 15 to 60 kA/m and a saturation magnetization of 0.2 to 5.0  $\text{Am}^2/\text{kg}$ .

3. Iron oxide powder for an undercoat layer of a coat-type magnetic recording medium according to claim 1 or 2, wherein said cobalt-doped iron oxide particles are cobalt-doped  $\alpha$ -iron oxide particles.

4. A process of producing iron oxide powder for an undercoat layer of a coat-type magnetic recording medium having a multilayer structure, which process comprises the steps of synthesizing goethite, filtering the resulting goethite slurry, washing the filter cake with water, drying the cake, and firing the resulting goethite powder at 400 to 600°C, wherein an aqueous cobalt salt solution is added to the system of synthesizing goethite when 50 to 100% of iron (II) is oxidized to iron (III) in the step of synthesizing goethite, followed by continuation of the oxidation reaction to produce cobalt-doped iron oxide particles having an average length of 0.02 to 0.3  $\mu\text{m}$ , an aspect ratio (length to width ratio) of 2 to 13, and a BET specific surface area of 40 to 100  $\text{m}^2/\text{g}$  and containing a cobalt compound in an amount of 0.2 to 10 atom% in terms of cobalt based on total iron.